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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,540

01/16/2004

Anna Kron

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NEW YORK, NY 10004

EXAMINER

ZEMEL, IRINA SOPJIA

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/758,540	<b>Applicant(s)</b> KRON ET AL.	
	<b>Examiner</b> Irina S. Zemel	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,287,308 to Nakayama et al., (hereinafter "Nakayama") in combination with US Patent 4,255,307 to Miller, (hereinafter "Miller").

The rejection of claims 1-23 stands as per reasons of record.

### ***Response to Arguments***

Applicant's arguments filed 6-3-2008 have been fully considered but they are not persuasive. The applicants argue that a skilled artisan would not have been motivated to replace the agents disclosed in Nakamura with to reduce the amount of residual acrylonitrile in the polymeric shell of the expandable microspheres with the sulphur containing (sulfites) agents as in the claimed invention and as disclosed in Miller since 1) Miller discloses use of the claimed sulfur containing agents in aqueous dispersions, not microspheres, 2) Miller does not recognize importance of retaining specific properties of expandable microspheres, and also that sulfur containing agents disclosed in Nakayama do not perform optimally in the process of Nakayama.

The examiner would like to emphasize that most of those arguments have been presented before and generically addressed in the previous office actions.

The examiner agrees that the Miller reference does not use the claimed agent to reduce residual amount of monomer in microspheres. If that was the case, the rejection would have been an anticipatory rejection of the instant claims over the Miller reference. The examiner agrees that the most physical properties and characteristics of aqueous dispersions of polymers and expandable microspheres are different. The examiner also agrees that sulfur containing agents of Nakayama do not perform optimally as compared with another agents. HOWEVER, none of those facts makes the rejection of the instant claim over the combined teaching of the two cited references any less obvious. Miller does disclose use of the claimed agents for use in aqueous solutions, whose physical properties are different from the properties of microspheres. However, Miller uses the claimed agents for exactly the same purpose as Nakamura uses his agents, i.e., reducing residual amount of monomer, and such reduction is done via a chemical process, which involves identical chemical reaction whether the polymer is in suspension or in the form of a microsphere. A given chemical compound is expected to react in the same chemical manner with another compound (in the instant case identical residual monomer) whether the monomer is dispersed along with the polymer (which is non-reactive to the reducing agent) in aqueous suspension or the polymer microspheres are dispersed in aqueous suspension – either case, unreacted residual monomer becomes available for reaction with reducing agents, and the reaction is chemically identical. The differences in physical characteristics that may exist between the water dispersion of microspheres of Nakamura and polymers of Miller do not play a role in the nature of the underlying chemical reaction. Thus, once again, a skilled artisan would

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expect a successful outcome in reacting the reducing agents of Miller in the process of Nakayama since identical chemical reaction is expected between identical chemical compounds involved in this reaction. Miller reference does not have to recognize specific advantages that the agents of his disclosure will bring about when used in process of Nakayama, only reasonable expectation of success in using those agents is required. In addition, the examiner provided explicit motivation why use of such agents is not only expected to be used successfully, it is expected to provide some advantages. It has been long established by the courts that motivation to combine references does not have to be the same as the motivation provided or recognized by the applicants.

The applicants state that certain agents compromise the characteristics of the resulting microspheres, such as expansion and color. It is noted that the sulfur containing agent of Nakayama, sodium sulfide, does not, according to the applicants disclosure, compromise the expansion characteristics, while the color characteristics are clearly expected from the characteristics of sodium sulfide itself. In addition, once again, in the absence of showing of clearly unexpected results, recognition of any specific advantages of otherwise obvious process step bears no weight on the patentability of the claimed process. There is absolutely no evidence on the record that substitution of expressly disclosed sodium sulfite in the process of Nakamura with reducing agents disclosed by Miller result in any unexpected advantage.

"[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary

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skill in the art would employ." *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385, 1396 (2007), *quoting In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336-37 (Fed. Cir. 2006). The analysis supporting obviousness, however, should be made explicit and should "identify a reason that would have prompted a person of ordinary skill in the art to combine the elements" in the manner claimed. *KSR*, 127 S.Ct. at 1731, 82 USPQ2d at 1389.

Applying the preceding legal principles to the factual findings in the record of this appeal, we determine that the Examiner has established a prima facie case of obviousness, which case has not been adequately rebutted by Appellant's arguments. As shown by the factual findings above, use of a known reducing agent (disclosed by Miller) for its precise known function in a chemical reaction with a monomer (process of Nakayama), which reaction is identical whether or not the polymer is dispersed in a specified media, would have been clearly obvious with reasonable expectation of success. In addition, use of such agent is expected to bring certain advantages, and there is absolutely nothing on the record that shown any unexpected results that can be attributed to use of a specific agent (disclosed in Miller) in the process of Nakamura.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina S. Zemel/

Irina S. Zemel

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Primary Examiner, Art Unit 1796

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